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ABSTRACT

In recent years, researchers have been questioning the assumption that more education necessarily guarantees workers greater occupational payoffs. This study examines overeducation in the American work force in terms of its frequency; segments of the work force in which it is most common; its relationship to job dissatisfaction, low self-esteem, and depressed mood; and the effects of reinforcement from the worker's environment on the overeducated worker. Data were collected in 1973 from a national probability sample of people 16 years old or older, living in households, and working for pay at least 20 hours a week. Workers were interviewed regarding overeducation, job satisfaction, self-esteem, depressed mood, promotions, and skill shortage. Findings indicated that 27 percent of the American work force felt their level of formal education exceeded that needed by people in their jobs, and 19 percent felt their education was less than that needed. Overeducated workers were significantly more likely to be dissatisfied with their jobs, to have low self-esteem, and to experience depressed mood. Occupational role strain was greatest when the worker was both overeducated and either had never been promoted or did not perceive a shortage of people with his/her skills. (EA)

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OVEREDUCATION AND JOBS: CAN THE GREAT TRAINING ROBBERY BE STOPPED?

Robert P. Quinn

Doubt has been cast upon the universal benefits of education to American workers.

Sociologists have characteristically emphasized, and have documented well, the contribution of education to social mobility, a critical part of this contribution being the payoff of education in terms of securing better, higher-status employment. Economists, too, have emphasized the importance of education to both America's workers and its economic system. Both Denison (1962) and Schultz (1962), for example, report that about a quarter of the growth in total national income and over 40 percent of the growth in per capita income in the United States following the 1929 depression was accounted for by increases in education.

In the last few years, however, two lines of thought and research have led to a questioning of the assumption that "more" is necessarily "better" for workers with regard to the occupational payoffs of their education. The first line, a sociological and economic one, is most vividly expressed and documented by Berg in Education and jobs: The great training robbery (1971). Its central concept is overeducation (sometimes called overtraining), described by Kalleberg and Sørensen (1973) as the discrepancy between a worker's educational attainment and the skill level required to perform the worker's job. The educational attainment of Americans has been increasing for years (Folger & Nam, 1967; Jencks & Riesman, 1968), the argument runs, and it will continue to increase (Manpower Report of the President, 1973). But, the argument continues, there have not been corresponding increases in the skill levels required to perform jobs (Berg, 1971; Eckaus, 1964; Folger &

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Nam, 1967; Hapgood, 1971; Scoville, 1966). As a result of this increasing gap between educational achievement and the educational requirements of jobs, many Americans are overeducated for the work they do. The further implication of this argument is that overeducation is somehow an undesirable state of affairs from a worker's perspective.

The second line of thought, a psychological one, has focused upon the underutilization of skills as a job stress and emphasizes the damaging effects upon one's self-esteem of having a job that does not make use of one's training and/or skills. In this context, underutilization of skills has been shown to be related to a number of indicators of job strain, among them low self-esteem, depressed mood, dissatisfaction with one's job, dissatisfaction with one's life in general, and certain aspects of physical health (French & Caplan, 1973; Kroes, Margolis, & Quinn, 1974).

If overeducation results in the underutilization of one's skills, and if the latter constitutes a job stress, then individual differences in overeducation should be related to individual differences in the experience of job strain. The most direct evidence in support of this prediction comes from Kalleberg and Sørensen's (1973) study of male office and factory workers in ten employing establishments in Wisconsin. Overtraining was found to be negatively associated with two work-related attitudes: job satisfaction and job involvement. More remote evidence comes from the use of overeducation to explain the peculiar relationship between education level and job satisfaction observed in several national surveys of workers (Mandilovitch & Quinn, 1975;

Quinn, Staines, & McCullough, 1974). A common finding in these surveys is that significant increments in job satisfaction occur only when educational credentials are conferred. People with "some college" education, for example, are no more satisfied with their jobs than are those who have attained only a high school diploma--and in some studies they are even less satisfied than less-educated workers. It has been suggested that, because of their college experience, they have obtained some of increased skills (and perhaps greater aspirations) of college graduates. But, lacking a college degree, they are unable to obtain employment commensurate with their skills and aspirations.

Let us assume that the association between overeducation and job strain is mediated by the experience of underutilization of skills and the corresponding damage of this experience to one's self-esteem. Under this assumption, overeducation will not be stressful if there are antidotal environmental conditions that, in spite of one's overeducation, provide some indication that one is objectively esteemed by others. To the extent that this objective public esteem is translated into self-esteem, the effects of overeducation will therefore be ameliorated.

This study attempted to answer four questions:

1. How common is overeducation in the American work force?

2. In what segments of the work force is it most common?

3. What are the relationships between overeducation and indicators of role strain: job dissatisfaction, low self-esteem, and depressed mood?

4. Do the latter relationships diminish when the worker's environment indicates to him or her that, although the worker may be overeducated,

his or her skills are nevertheless valued? Two such environmental moderators were selected for study: whether or not the worker thought that his or her skills were in short supply; and whether or not the worker had ever been promoted by his or her present employer.

Method

Sample

Data were collected early in 1973 by personal interviews with a national probability sample of people who (1) were living in households, (2) were 16 years old or older, and (3) worked for pay at least 20 hours a week. Most of the present analyses were confined to full-time workers, those working 35 hours a week or more. Sampling and measurement details are described more completely by Quinn and Shepard (1974).

Measures

Overeducation. Early in the first few minutes of the 80 minute interview each worker was asked, "What level of formal education do you feel is needed by a person in your job?" At the end of the interview he or she was asked, "What was the highest grade of school or level of education you completed?" Any worker who had completed more years of education than was regarded as necessary for his or her present job was coded as overeducated.

Job satisfaction was measured by five questions that were "facet free" in that they did not refer to any specific aspects of one's job--for example, "All in all, how satisfied would you say you are with your job?" This measure's internal consistency reliability, as estimated by coefficient alpha, was .72 (Quinn & Shepard, 1974).

Self-esteem, a five question measure developed by House (1972), had a reliability of .70.

Depressed mood contained ten questions developed by Zung (1965) and had a reliability of .77.

Promotions. Wage-and-salaried workers were asked how many times they had been promoted since coming to work for their present employers.

Skill shortage was measured by a single question, "Is there a shortage of workers in this area who have your experience, training, and skills?"

Results and discussion

Twenty seven percent of the American work force indicated that their levels of formal education exceeded that needed by people in their jobs. Nineteen percent indicated that their education was less than that needed, and the remaining 53 percent reported no discrepancy between their own education levels and those required by their work.

Table 1 shows the national distribution of overeducated workers classified according to their education level, age, sex, and race. Only the first two of these demographic characteristics were associated with overeducation. While overeducation increased with education level, the relationship was far from monotonic. Detracting from monotonicity were the high percentages of overeducated workers with "some" high school or "some" college education. Age was also significantly related to overeducation, with workers under 30 years of age reporting the greatest amount of overeducation.

Table 2 contrasts workers who were overeducated and those who were not in terms of the three indicators of job strain. Overeducated workers were significantly more likely than others to be dissatisfied with their their jobs, to have low self-esteem, and to experience depressed mood.

Tables 3 and 4 show the results of several two-way analyses of

Table 1

Percentanges of Overeducated Workers by Selected Demographic Characteristics (Full Time Workers Only)

Worker characteristic	Percentage overeducated
Education	
Some grade school (87; 69)[a]	8%
Completed grade school (129; 186)	16
Some high school (261; 186)	30
Completed high school (173; 496)	18
Some college (371; 260)	47
Completed college (146; 108)	35
More than a college degree (144; 104)	34
$\chi^2 = 89.91$; d.f. = 6; $p<.001$	
Age	
Under 21 (125; 66)	46%
21-29 (508; 352)	37
30-44 (573; 423)	23
45-54 (394; 276)	23
55 or older (249; 193)	18
$\chi^2 = 36.99$; d.f. = 4; $p<.001$	
Sex	
Men (1,208; 928)	29%
Women (643; 384)	24
$\chi^2 = 2.60$; d.f. = 1; n.s.	
Race	
White (1,627; 1,152)	26%
Black (152; 113)[b]	35
$\chi^2 = 0.77$; d.f. = 1; n.s.	

[a]The first number in parentheses is the weighted N and the second is the unweighted N. Percentages are based on weighted data and tests of statistical significance are based on unweighted data.

[b]Minority races other than blacks have been excluded.

Table 2

Mean[a] Scores on Strain Measures in Relation to Overeducation (Full Time Workers Only)

Strain measure	Overeducated (N~355)	Not overeducated (N~945)	t-test of difference between means
Job satisfaction	-.29	.11	6.48***
Self-esteem	-.19	.07	4.34***
Depressed mood	.17	-.05	3.49***

[a]Means are expressed as standardized z scores.

*** $p<.001$

variance where the dependent variables were the three measures of strain and the independent variables were overeducation and, respectively, promotions (Table 3) and skill shortage (Table 4). Since the independent variables were correlated, the statistical procedure used was multivariate analysis of variance, originally developed by Hall and Cramer (1965) to deal with correlated predictors.

Occupational role strain was greatest where the worker was both overeducated and either had never been promoted (Table 3) or did not perceive there being a shortage of people with his or her skills (Table 4). The critical tests in these two tables, however, are the significance tests of the interaction terms. In Table 3, for example, it was predicted that the effects of overeducation would be greater when the worker had not been promoted than when the worker had been. The prediction was supported by the pattern of mean strain scores in each row of the table and the significance of the corresponding interaction term. All interactions involving skill shortage were also statistically significant, the pattern of means in each row indicating that the effects of overeducation were greater when the worker's skills were not in short supply than when they were.

The data therefore indicated that overeducation is a problem affecting a sizeable percentage of the American work force--particularly those who have obtained some education at a particular institutional level (i.e., high school or college) but who have not obtained the diploma or degree usually awarded at that level. Their problem is not that of being educational "have nots"; it is instead the more frustrating one of having not quite enough. Their problem will probably endure so long as employers cast the educational requirements of jobs (often inflated requirements) in terms of the possession of educational credentials rather than the amount, type, and quality of education that is actually required

Table 3

Mean[a] Scores on Strain Measures in Relation to Overeducation and Workers' Reports of Having Been Promoted by their Present Employers (Full Time Wage-and-salaried Workers Only)

Strain measure	Worker has not been promoted		Worker has been promoted		F-test of interaction of overeducation and promotions
	Overeducated (N=206)	Not overeducated (N=489)	Overeducated (N=114)	Not overeducated (N=336	
Job satisfaction	-.40	.12	-.09	.09	6.70**
Self-esteem	-.35	.11	.01	.03	11.37***
Depressed mood	.35	-.07	-.05	-.07	7.66**

[a]Means are expressed as standardized $\underline{z}$ scores.

**p<.01

***p<.001

Table 4

Mean[a] Scores on Strain Measures in Relation to Overeducation and Workers' Reports of there being a Shortage of People with their Skills (Full Time Workers Only)

Strain measure	Worker does not report a shortage of his or her skills		Worker reports a shortage of his or her skills		F-test of interaction of overeducation and skill shortage
	Overeducated (N=200)	Not overeducated (N=433)	Overeducated (N=146)	Not overeducated (N=491)	
Job satisfaction	-.46	.02	.02	.21	5.25*
Self-esteem	-1.00	-.05	.40	.38	12.14***
Depressed mood	.30	.00	-.04	-.09	4.29*

[a]Means are expressed as standardized $\underline{z}$ scores.

*p<.05

***p<.001

to do a particular type of work.

The effects of overeducation are apparent not only in terms of human capital that is lost to the American economy. The data indicated that the effects are felt as well by the overeducated worker and are expressed as a disenchantment both with one's employment and with oneself. But, the data further suggest, the latter affront to a worker's self-esteem can at least be reduced where the work environment provides the worker with sufficient public esteem. If the great training robbery cannot be stopped, its effects can at least be circumscribed.

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